

CLAIMS

What is claimed is:

1. A disc brake assembly comprising:
 - a brake caliper having an outboard side;
 - a brake pad;
 - a pad spring including a spring planar region and a rounded edge; and
 - a pad retainer including a retainer planar region having a first radius for engagement with said spring planar region of the pad spring to restrain radial movement of the brake pad, wherein the pad retainer is secured to the outboard side of the brake caliper at a second radius that is less than the first radius, the pad retainer further including a crook adjacent to the retainer planar region of the pad retainer and the rounded edge of the pad spring.
2. The disc brake assembly according to claim 1 wherein the pad spring further includes a second rounded edge, and the spring planar region is between the rounded edge and the second rounded edge.
3. The disc brake assembly according to claim 1 wherein the pad spring is substantially elongate and defined by a length and a width, and the pad spring includes a central region located along a portion of the length of the pad spring, and the spring planar region of the pad spring is located on the central region of the pad spring, wherein the central region defines a maximum width of the pad spring and a remainder of the pad spring has a reduced width less than the maximum width.
4. The disc brake assembly according to claim 1 wherein the pad spring is substantially curved.
5. The disc brake assembly according to claim 1 further including a backplate, wherein the pad spring further includes radially outwardly curved ends that radially retain the pad spring on the backplate.

6. The disc brake assembly according to claim 5 wherein the backplate includes complementary curved surfaces for abutment with the radially outwardly curved ends of the pad spring.

7. The disc brake assembly according to claim 1 further including a backplate having a backplate protrusion, and wherein the pad spring further includes an aperture, and wherein the backplate protrusion of the backplate is located in the aperture of the pad spring to prevent axial movement between the pad spring and the backplate.

8. The disc brake assembly according to claim 7 wherein the pad spring includes a spring protrusion located around the backplate to prevent axial movement between the pad spring and the backplate.

9. The disc brake assembly according to claim 1 wherein the crook has a crook radius that allows the second radius to be less than the first radius, and wherein the crook radius is substantially equal to a radius of the rounded edge of the pad spring adjacent to the crook.

10. The disc brake assembly according to claim 9 wherein the crook radius is between 4.0 mm and 8.0 mm.

11. The disc brake assembly as related in claim 10 wherein the crook radius is between 5.0 mm and 7.0 mm.

12. The disc brake assembly as recited in claim 11 wherein the crook radius is between 5.25 mm and 6.75 mm.

13. A disc brake assembly comprising:
- a brake caliper having an outboard side;
 - a brake pad;
 - a pad spring including a spring planar region, a rounded edge, radially outwardly curved ends, and an aperture;
 - a pad retainer including a retainer planar region having a first radius for engagement with said spring planar region of the pad spring to restrain radial movement of the brake pad, wherein the pad retainer is secured to the outboard side of the brake caliper at a second radius that is less than the first radius, and wherein the pad retainer further has a crook adjacent to the retainer planar region of the pad retainer and the rounded edge of the pad spring; and
 - a backplate including complementary curved surfaces and a backplate protrusion, wherein the radially outwardly curved ends radially retain the pad spring on the backplate and the complementary curved surfaces abut the radially outwardly curved ends of the pad spring and wherein the backplate protrusion of the backplate is located in the aperture of the pad spring to prevent axial movement between the pad spring and the backplate.